WHAT IS CLAIMED:

1. An engine component composed of an aluminum alloy containing silicon, comprising:

a plurality of primary-crystal silicon grains located on a slide surface; wherein

the plurality of primary-crystal silicon grains have an average crystal grain size of no less than about 12 μm and no more than about 50 μm.

2. The engine component of claim 1, further comprising a plurality of eutectic silicon grains disposed between the plurality of primary-crystal silicon grains, wherein the plurality of eutectic silicon grains have an average crystal grain size of no more than about 7.5 μm.

3. The engine component of claim 1, wherein the engine component is a cylinder block, and the plurality of primary-crystal silicon grains are exposed on a surface of a cylinder bore wall of the cylinder block.

4. An engine component composed of an aluminum alloy containing silicon, comprising:

a plurality of silicon crystal grains located on a slide surface; wherein

the plurality of silicon crystal grains have a grain size distribution having at least two peaks; and

the at least two peaks include a first peak existing in a crystal grain size range of no less than about 1 μm and no more than about 7.5 μm and a second peak existing in a crystal grain size range of no less than about 12 μm and no more than about 50 μm.

5. The engine component of claim 4, wherein, in any arbitrary rectangular region of the slide surface having an approximate area of 800 μm×1000 μm, the number of circular regions having a diameter of about 50 μm and not containing any silicon crystal grains of a crystal grain size of about 0.1 μm or more is equal to or less than five.

6. The engine component of claim 1, wherein the aluminum

alloy contains: no less than about 73.4wt% and no more than about 79.6wt% of aluminum; no less than about 18wt% and no more than about 22wt% of silicon; and no less than about 2.0wt% and no more than about 3.0wt% of copper.

7. The engine component of claim 1, wherein the aluminum alloy contains no less than about 50 wtppm and no more than about 200 wtppm of phosphorus and no more than about 0.01wt% of calcium.

8. The engine component of claim 1, wherein the slide surface has a Rockwell hardness (HRB) of no less than about 60 and no more than about 80.

9. An engine comprising the engine component of claim 1.

10. A cylinder block composed of an aluminum alloy containing: no less than about 73.4wt% and no more than about 79.6wt% of aluminum; no less than about 18wt% and no more than about 22wt% of silicon; and no less than about 2.0wt%

and no more than about 3.0wt% of copper, the cylinder block comprising:

a plurality of primary-crystal silicon grains located on a slide surface arranged to come in contact with a piston, and a plurality of eutectic silicon grains disposed between the plurality of primary-crystal silicon grains; wherein

the plurality of primary-crystal silicon grains have an average crystal grain size of no less than about 12 μm and no more than about 50 μm, and the plurality of eutectic silicon grains have an average crystal grain size of no more than about 7.5 μm;

the aluminum alloy contains: no less than about 50 wtppm and no more than 200 wtppm of phosphorus; and no more than about 0.01wt% of calcium; and

the slide surface has a Rockwell hardness (HRB) of no less than about 60 and no more than about 80.

11. A cylinder block composed of an aluminum alloy containing: no less than about 73.4wt% and no more than about 79.6wt% of aluminum; no less than about 18wt% and no more

than about 22wt% of silicon; and no less than about 2.0wt% and no more than about 3.0wt% of copper, the cylinder block comprising:

a plurality of silicon crystal grains located on a slide surface arranged to come in contact with a piston; wherein

the plurality of silicon crystal grains have a grain size distribution having at least two peaks;

the at least two peaks include a first peak existing in a crystal grain size range of no less than about 1 μm and no more than about 7.5 μm and a second peak existing in a crystal grain size range of no less than about 12 μm and no more than about 50 μm;

in any arbitrary rectangular region of the slide surface having an approximate area of 800 μ m×1000 μ m, the number of circular regions having a diameter of about 50 μ m and not containing any silicon crystal grains of a crystal grain size of about 0.1 μ m or more is equal to or less than five;

the aluminum alloy contains: no less than about 50 wtppm and no more than 200 wtppm of phosphorus; and no more than about 0.01wt% of calcium; and

the slide surface has a Rockwell hardness (HRB) of no less than about 60 and no more than about 80.

12. An engine comprising the cylinder block of claim 10, and a piston having a slide surface whose surface hardness is higher than that of the slide surface of the cylinder block.

13. An automotive vehicle comprising the engine of claim 9.

14. A method for producing a slide component for an engine, comprising:

step (a) of preparing an aluminum alloy containing: no less than about 73.4wt% and no more than about 79.6wt% of aluminum; no less than about 18wt% and no more than about 22wt% of silicon; and no less than about 2.0wt% and no more than about 3.0wt% of copper;

step (b) of cooling a melt of the aluminum alloy in a mold to form a molding;

step (c) of subjecting the molding to a heat treatment

at a temperature of no less than about 450℃ and no more than about 520℃for a period of no less than about three hours and no more than about five hours, and thereafter liquid-cooling the molding; and

step (d) of, after step (c), subjecting the molding to a heat treatment at a temperature of no less than about 180℃ and no more than about 220℃ for a period of no less than about three hours and no more than about five hours; wherein

step (b) of forming the molding is performed so that an area of a slide surface is cooled at a cooling rate of no less than about 4℃/sec and no more than about 50℃/sec.

15. The method of claim 14, wherein step (b) of forming the molding includes step (b-1) of allowing a plurality of primary-crystal silicon grains to be formed in the area of the slide surface so as to have an average crystal grain size of no less than about 12 μm and no more than about 50 μm; and step (b-2) of allowing a plurality of eutectic silicon grains to be formed between the plurality of primary-crystal silicon grains so as to have an average crystal grain size of

no more than about 7.5 μm.